

FACT SHEET | Olfactory Cues for Medical Training

“The stink of the battlefield is something that’s hard to get used to...And you want them to be exposed to that in training, so that when they do it for real, they’re not shocked by the smell...and they’re able to immediately go into combat without losing effectiveness.”

- COL Fred Pickens, USA (Ret), The stink of the battlefield: More realism sought in urban combat training, National Defense, 1 Dec 2007

Studies have shown the sense of smell triggers emotional response usually as great as or greater than that triggered by other senses. The incredible blend of odors in the environment can overwhelm a Warfighter; add the biological-based smells due to injuries and an inexperienced Combat Medic, Combat Lifesaver or Corpsman can be rendered ineffective.

By leveraging commercial off-the-shelf technologies and custom-developed hardware and software, Research, Development and Engineering Command, Simulation and Training Technology Center (RDECOM STTC) hopes to show that when students are exposed to malodors prior to immersive training events, they will be more effective in the actual event.

RDECOM STTC is working with industry and academia to produce a variety of odors and delivery mechanisms. Target odors include:

- Environmental (raw sewage, diesel fuel, gunpowder)
- Biological (rotting/burnt flesh, burnt hair, urine, feces, vomit, body odor, blood)

Delivery methods will include:

- Delivery over a dispersed area via dry-air technologies
- Delivery around the simulated actual wound worn by a patient simulator
- Delivery around the simulated wound via embedding odors in lipid nanotube technologies

User tests will take place throughout 2009.

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